

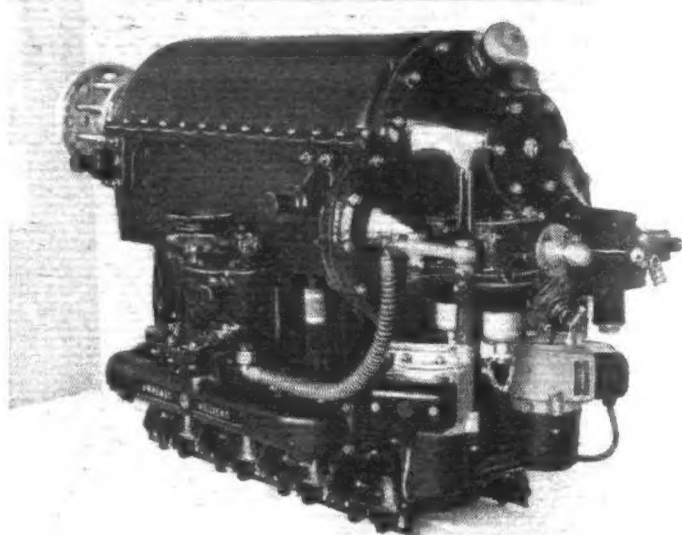
widely splayed valves allow a generous bridge of aluminium between the valve inserts, thus reducing stresses and the consequent danger of cracking. The valve inserts are machined from steel forgings (machined and supplied by the Harold Andrews Grinding Co., Ltd.), have stellite seats, and are shrunk into the head with the use of liquid oxygen.

There are two camshafts of nickel-chrome case-hardened steel supplied by the E.M.V. Engineering Co., Ltd. They are mounted one on each side and run on four bearings directly on the Elektron case, which is said to have excellent bearing properties. The push-rods have tubular casings and are operated *via* roller tappets and large-diameter ball ends. These are situated on either side of and between the cylinders. The rockers (supplied by Hughes Johnson Stampings, Ltd., and machined by William Spears, Ltd., of Leicester, in 65-ton nickel-chrome steel) are positioned fore and aft and mounted on special Timken taper roller bearings to take the side thrust. In the six-cylinder engines being developed by the Company the push-rods of each cylinder are orientated slightly outwards, while the rockers are splayed backwards and outwards in order to reduce this thrust still further. Each cylinder has one inlet and one stellited exhaust valve (supplied by Motor Components (Birmingham), Ltd.), the latter valve having a large-diameter stem and a solid-rimmed head to avoid distortion.

One pressure and two scavenge oil pumps, of the gear type, are housed in an accessible unit at the back of the crank case, being driven direct from the starboard camshaft. The oil pressure is 40-60 lb. per square inch.

There are two 14 mm. K.L.G. or Lodge plugs per cylinder. The two B.T.H. spigot-type magnetos have automatic advance and are driven at camshaft speed. The distributors can be screened at the purchaser's option.

One Claudel Hobson Ar 48-DX downdraught carburetter is fitted on the port side and has independent altitude control.



This three-quarter rear view shows such items as carburetter, fuel pumps, magnetos, etc.

An Amal duplex fuel pump is driven direct from the end of the port camshaft.

Various parts and bolts have been supplied by Rubery Owen and Co., Ltd., and Brown Bros., Ltd., and the jointings are by James Walker and Co., Ltd.

The dimensions of the engine are: length overall without starter or spinner, 43½ in.; overall height, 22½ in.; overall width, 15½ in.

CORRESPONDENCE

The Editor does not hold himself responsible for the views expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for inclusion in these columns.

LETTING THE CLUB PILOT OFF THE LEASH

AFTER some experience on a B.A.C. Super Drone I should like to suggest to "Indicator," "Five Hundred Hours," and flying clubs that a modest single-seater of this type provides a reasonable method of letting bored, inexperienced and impecunious club pilots off the leash.

It is surprising how a good gliding angle, all-round view, and half the usual landing speed, reduce the terrors of a forced landing, and it is also comforting to feel that these views are shared by the insurance company, and that landing in ordinary fields is permitted.

My second cross-country flight on the Drone, after ten hours' solo on other types, was to Paris, and a more recent purchaser, Mr. Scott-Pearse, with fifteen hours' solo to his credit, left Hanworth one evening and reached Perth the next. [Since the above was written a Drone has flown to Berlin.—ED.]

Neither of us would have cared to be burdened with the responsibility of a passenger, and the petrol required for either journey would have barely sufficed for circling the aerodrome on the usual club aeroplane.

JOHN S. DOVE.

"EGGS AND BASKETS"

IT would appear that the statement contained in a recent leading article in *Flight* to the effect that "the Admiralty has persisted in setting store by carriers," contains a criticism which is not strictly justifiable.

What the Admiralty has done is to realise the value of aircraft to the Fleet, but it is difficult to see how it can be blamed because the aircraft supplied require floating aerodromes from which to operate.

The catapult method of launching aircraft has solved part of the problem; but even so, and under ideal conditions, recovery from the water is anything but an easy matter, and one which in wartime might prove to be impracticable.

It appears rather strange, therefore, that whilst certain alternatives to the aircraft carrier are suggested in the article, one of which is the possible suitability of airships for the patrol of ocean trade routes, no mention at all is made of the possibilities of the Autogiro for this and other duties for which it appears to be particularly suited.

Practical tests carried out for the Italian Navy fifteen months ago showed that a perfectly standard Autogiro could not only fly off from, but what is equally as important, also

land on, a small platform erected on a cruiser. The experiments were carried out under various conditions ranging from ship stationary to twenty-four knots, and the results obtained provided further proof of those unique qualities of adaptability and utility possessed by this type of aircraft.

The only logical solution to the problem of how most advantageously to arrange the eggs amongst the baskets is that means which will enable every ship to become its own independent aircraft carrier; and it is suggested that for purely naval duties the Autogiro will prove to be the only type of aircraft which will enable this ideal to become a reality.

Twickenham.

R. A. C. BRIE.

AUSTRALIA'S AIR DEFENCE

IN a lucid article on Australia's Air Defence in your issue of April 9, the contributor lays stress on the vulnerability of an invader to attack by the R.A.A.F. But, with its supply and maintenance organisation concentrated in two points on the coast, is not the R.A.A.F. equally vulnerable to the fleet aircraft of the aggressor? Thus, it seems that the only logical policy would lead to the establishment of main bases well inland and to the employment of coastal aerodromes as advance posts, for the present system (in effect front line aerodrome and supply depot combined) recalls the old adage of too many eggs in one basket a little too strongly, methinks! There is no lack of suitable sites inland. Cootamundra, for instance (where, incidentally, your heading photograph was taken), would seem to be ideally situated.

Perhaps this is a matter of detail only, but such details make or mar a victory.

Hamble, Hants.

TARGET.

IN BRIEF

Wing Cdr. A. S. G. Lee is compiling a record of the history of the Hornchurch Royal Air Force Station, and is anxious for information, particularly covering the war years. He has an outline of No. 39 Squadron's history, but little about Nos. 78 and 189. He is in possession of all details regarding No. 46.

Wing Cdr. Lee will be glad to hear from officers and men who served at this station during the war, and can supply details of the more interesting events, or can loan records. Letters should be addressed to the Commanding Officer, and marked "History."